

ABSTRACT

A high-speed vision sensor includes: an analog-to-digital converter array 13, in which one analog-to-digital converter 210 is provided in correspondence with all the photodetector elements 120 that are located on each row in a photodetector array 11; a parallel processing system 14 that includes processor elements 400 and shift registers 410, both of which form a one-to-one correspondence with the photodetector elements 120; and data buses 17, 18 and data buffers 19 and 20 for data transfer to processing elements 400. The processing elements 400 perform high-speed image processing between adjacent pixels by parallel processings. By using the data buses 17, 18, it is possible to attain, at a high rate of speed, such calculation processing that requires data supplied from outside.